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credit to the country. It is an admirable presentation book, either for young entomologists, or as an attractive serial for the drawing-room table.

DEEP SEA FLORIDAN POLYZOA.*—This elaborate treatment of the Polyzoa of the Floridan channel is based on the deep sea dredging made by Count Pourtalés of the U. S. Coast Survey. The geographical distribution of the forms found at the greatest depths in the channel, is of high interest as the assemblage embraced not only well known arctic but also antarctic, and even Australian species, with those purely tropical. The collection affords, as Dr. Smitt states, "new confirmation to the geographical theory first and most clearly stated by Prof. S. Lovén, that the deep sea fauna is a uniform one, connecting the north pole with the south through species of animals distinguished by their strong vital force, and, therefore, also by their great geological age." Several cretaceous, and a number of tertiary (European, Australian and Californian) species are recorded as now living in the Floridan seas.

THE PUBLICATIONS OF THE BUFFALO SOCIETY OF NATURAL SCIENCES.†—The fourth and last number of the first volume of the "Bulletin" of this society is a capital one if we consider either the number and variety of the papers, the excellence of the illustrations, or the promptness with which the parts are issued. The publication is indeed a great credit to the city of Buffalo, and evinces the interest felt in scientific studies by the citizens. Several entomological papers are contributed by Mr. Grote, the curator of articulates and chairman of the publication committee, by Mr. Scudder, Mr. H. K. Morrison, Dr. L. F. Harvey, and Dr. LeConte; two paleontological articles are prepared by Mr. R. Rathburn and W. H. Pitt. The Contributions to the Geology and Physical Geography of the Lower Amazons, by Prof. C. F. Hartt, is a paper of so much general interest that we shall notice it at length hereafter.

LIST OF NORTH AMERICAN NOCTUID MOTHS.‡—Mr. Grote has before supplied entomologists with a catalogue of our Sphingidæ,

* Floridan Bryozoa, collected by Count L. F. de Pourtalés. Described by F. A. Smitt. Parts 1, 2, with 18 plates (Transactions of the Royal Swedish Academy of Science) 1872-3. 4to, pp. 20, 83. Printed in the English language.

† Bulletin of the Buffalo Society of Natural Sciences. Buffalo, N. Y. Vol. i. 8vo, pp. 289, with 11 plates and woodcuts. 1873-4.

‡ List of the Noctuidæ of North America. By Aug. R. Grote, Buffalo, N. Y., May, 1874, 8vo, pp. 77, with colored plate.

Zygaenidæ and Bombycidæ, and now we have an admirably prepared list of the next extensive family, the Noctuidæ. No other list has been published since the imperfect one contained in Dr. Morris' Catalogue of our Lepidoptera published by the Smithsonian Institution in 1860.

The species enumerated by Mr. Grote amount to 815, belonging to 282 genera, including the Deltoids (*Hypena* and allies) which the author, following Lederer, takes out of the *Pyrilidæ*. Though it is not stated in the preface, the list is evidently restricted to that part of the continent north of the West Indies and Mexico. The most important synonyms are given, with an index to the genera. The appendix contains a number of new genera and species, illustrated in part by an excellent plate. The distribution of the genera is given; we wish that the localities of all the species separately could have been added.

B O T A N Y .

GEOGRAPHICAL DISTRIBUTION OF THE CUPULIFERÆ.—This large family, including the chestnuts, oaks, and beeches, since it is the earliest geologically of the dicotyledonous plants, affords much promise of definite conclusions in regard to the genetic relations of the present species from a comparison of the living and fossil forms. The first results of an extended investigation in this direction, by A. S. Orsted, in which the morphology, classification and geographical distribution of the family, are treated has been published in the transactions of the Copenhagen Academy. The conclusions in regard to geographical distribution harmonize with the generally received law, that the more the classification of a family rests on characteristics which indicate a real relationship, the clearer it appears, that each subdivision has its own centre of distribution, and further that the greater the differences of organization between the subdivisions, the greater the geographical distances between these centres. Thus the chestnuts, oaks and beeches, constituting the three groups of this family, afford three principal centres of distribution, and cover three large, widely separated geographical regions; the chestnuts having their centre in the Malay islands, the oaks in Mexico, and the beeches in South America. The chestnut group, which is sharply separated from the other groups, also has its own peculiar, tolerably well defined